WHAT IS CLAIMED IS:

1. A bioreactor culture system for producing conifer somatic embryos, comprising:

a closed vessel;

a biomass immobilization matrix positioned in the closed vessel;

a liquid culture medium contained in the closed vessel, the level of liquid culture medium being lower than the immobilization matrix; and

a liquid culture medium spraying equipment for spraying liquid culture medium onto the biomass immobilization matrix to thereby irrigate said immobilized biomass.

2. The system of claim 1, further comprising a gas control equipment for controlling the concentration of oxygen in the gas phase of the closed vessel.

3. A bioreactor culture process for producing conifer somatic embryos, comprising the steps of:

installing a biomass immobilization matrix in a closed vessel;

sterilizing the biomass immobilization matrix and the closed vessel;

introducing a liquid culture medium in the closed vessel to immerse the biomass immobilization matrix;

adding a given volume of cultured cells in the liquid culture medium;

immobilizing the cultured cells onto the biomass immobilization matrix;

reducing the level of liquid culture medium in the closed vessel to a level lower than the biomass immobilization matrix; and

spraying liquid culture medium onto the biomass immobilization matrix to thereby irrigate said immobilized biomass.

4. The process of claim 3, further comprising the step of controlling the concentration of oxygen in the gas phase of the closed vessel.

5. The process of claim 3, wherein said bioreactor culture process is a process for producing somatic embryos of most conifer species.